

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Reliant Energy Wholesale Generation LLC
Bighorn Generating Station
7251 Amigo Street Suite 120
Las Vegas, Nevada 89119

Permit Number: NEV2002500

Description of Discharge: Water wastestreams discharged to the evaporation pond include: service water from floor drains with potential for oily contamination which are treated via an oil/water separator and piped to the evaporation pond, reject water/brine from the high efficiency reverse osmosis (HERO) water treatment system, reject wastestreams from the PALL microfiltration system, any incident stormwater collected on site, and any operational treated water discharges. Water quality of wastewater discharged to the double lined evaporation pond averages 1360 mg/L Total Dissolved Solids, 915 mg/L Sodium, 470 mg/l Chlorides, and 424 mg/L Sulfate. Service water not contaminated with oils is collected in a gravity system and collection sump from which it is pumped back to the plant make-up water storage water tank for recycling and treatment. All plant water except that noted above is recycled, stored, retreated via the HERO system and reused. Make-up water will be taken into the system constantly.

Location: The Reliant Energy Bighorn Generating Station is located at 1275 East Primm Boulevard in Primm, Nevada 89019. The facility is located on 165 acres east of the Union Pacific Railroad, east of the Primm casino properties and the I-15 Primm/Stateline interchange, about 30 miles southwest of Las Vegas, Clark County, Nevada. The site is accessed from East Primm Boulevard via a bridge over the railroad into the facility. Latitude: 36° 36' 51"N; Longitude: 115° 21' 15"W. Section 9, and 10, T. 27S., R. 59E. MDB&M.

Characteristics:

Flow: Monitor and Report 001 and 002. The annual average flow is 0.029 MGD (20 GPM) discharged to the pond.

Parameters: Monitored and Reported Quarterly 001: TDS, pH, Oil and Grease, Temperature, and TPH.
Total Coliform Weekly 002: 2.2 CFU/100 ml 30-Day Average; 23 CFU/100 ml Daily Maximum.

Monitored and Reported Annually: Priority Pollutant Metals

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General: Reliant Energy Wholesale Generation LLC operates the Bighorn Generating Station , a 600 Megawatt Combined cycle gas turbine power plant. The power generation facility consists of two combustion turbines, two supplementary natural gas fired heat recovery steam generators (HRSG), and one steam turbine generator with an air cooled condenser. The combustion turbines are also natural gas fired.

Water used for the Bighorn Power Generating plant is supplied from two sources. The primary source of water is treated disinfected effluent (23 CFU/100 ml Fecal Coliform) supplied by the Primm wastewater treatment plant via an effluent lift station. The Primm WWTP effluent is pumped from this lift station and then is further treated by Bighorn via sand filtration, additional disinfection, and microfiltration in a new PALL system to meet an effluent quality of 2.2 CFU/100 ml Total Coliform. The treated water is then stored in a one million gallon storage tank to supply plant make-up water, service water and a fire suppression system. A secondary source of emergency use back-up water is raw water from well 1A in the event the treated effluent supply is interrupted. This water will be discharged into the makeup water tank via an air gap.

Domestic water service for the office area is supplied by an onsite well. Sanitary wastes are discharged to an onsite septic system.

The evaporation pond is 675 x 360 feet in size, and 13.5 feet deep, including three feet of freeboard. The evaporation pond is oriented in a north-south direction and lined with two 60-mil thick HDPE geomembrane liners with a leak detection and removal system (LDRS) installed between the two liners to detect and automatically remove leakage through a 160-mil geonet liner to a collection trench in the bottom of pond. The inner exposed primary liner is covered with a 12-inch thick layer of protective cover material to prevent wind uplift, mechanical and or other types of damage. The interior side slopes are covered with geotextile fabric and riprap to prevent wind and water erosion of the liner material. The dike areas surrounding the cell berms are wide enough to provide access or inspection, monitoring and maintenance. The entire pond area is fenced with a 6-foot high chain link fence topped with barbed wire. Tortoise protection fences are installed at the base of the chain link fencing.

The Permittee has applied for a permit renewal to discharge RO system reject water, the PALL system wastestream and other and facility wastestreams to the evaporation pond for disposal via evaporation, and to reuse highly treated effluent as plant make up water, service water and to support a facility fire suppression system.

Receiving Water Characteristics: *Groundwater below the plant site is in excess of 300 feet below ground surface and is of poor quality. TDS averages 3,500 as reported in the monitor wells at Whiskey Pete=s (Primm WWTF) rapid infiltration basins.*

Procedures for Public Comment: *The notice of the Division's intent to issue a permit authorizing the facility to discharge plant process wastestreams to the evaporation pond and to reuse treated highly disinfected, filtered effluent as plant make-up water subject to the conditions contained within the permit, is being sent to the Las Vegas Review-Journal for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the publication of the public notice in the newspaper, by March 10, 2008. The comment period can be extended at the discretion of the Administrator.*

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing scheduled by the Administrator must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination: *The Division has made the tentative determination to renew the proposed permit for a 5-year period.*

Effluent Limitations, Schedule of Compliance and Special Conditions

Evaporation pond: Outfall 001

Flow:	Monitor and Report	Continuous
TDS:	Monitor and Report	Quarterly
pH:	Monitor and Report	Quarterly
Oil & Grease:	Monitor and Report	Quarterly
TPH:	Monitor and Report	Quarterly
Temperature:	Monitor and Report	Quarterly
13 Priority		
Pollutant Metals:	Monitor and Report	Annual

Reuse for plant make-up water: Outfall 002

Flow:	Monitor and Report	Continuous
Total Coliform:	2.2 CFU/100 ml 30-day average	Weekly
	23 CFU/100 ml daily max.	Weekly

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Revisions to the Operations and Maintenance Manual or a letter stating that there are no revisions shall be submitted to the Division by July 30, 2008.

Revisions to the Effluent Management Plan shall be submitted for review and approval by July 30, 2008. Both documents may be combined.

Rationale for Permit Requirements Monitoring is required to characterize the water quality contained in the evaporation pond and the quantity disposed into the pond. Reuse monitoring is conducted to ensure quality for the use intended; flow to document the quantity of reuse water entering into the plant make-up water storage tank.

***Prepared by: IcyI C. Mulligan
September 2007
February 2008***

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